REMARKS/ARGUMENTS

Claims 1-9 and 12-17 now stand in the present application, claims 9 and 17 having been amended, and claims 10, 11, 18 and 19 having been canceled. Reconsideration and favorable action is respectfully requested in view of the above amendments and the following remarks.

In the Office Action, the Examiner has objected to the specification for not having headings. As noted above, Applicant has amended the specification in order to correct the deficiency pointed out by the Examiner.

The Examiner has rejected claims 9-11 and 17-19 under 35 U.S.C. § 101 because the claimed invention is directed to non-statutory subject matter. As noted above, Applicant has amended claims 9 and 17 and canceled claims 10, 11, 18 and 19. In view of these amendments, the Examiner's § 101 rejection of the claims is believed to have been overcome.

The Examiner has rejected claims 9-11 and 17-19 under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement. Applicants respectfully traverse the rejection with respect to claims 9 and 17 which have been amended and which remain in this case. Support for claims 9 and 17 is believed to be present in the specification at page 8, lines 8-17 and Figure 1 which discloses and shows a transmitter 1 including a buffer, encoder 4, receiver 5 and decoder 6. It is respectfully submitted that those of ordinary skill in the art would understand that these are inherently processor based devices. Accordingly, it is respectfully submitted that those of ordinary skill in the art would in recognition of claims 9 and 17 as originally filed understand that these claims would be embodied in software which would be run on the

- 9 -

processor based devices shown in Figure 1 and described at the cited portion of the present specification. Accordingly, Applicant respectfully requests that the Examiner withdraw his § 112, first paragraph, rejection with respect to amended claims 9 and 17.

The Examiner has also rejected claims 1-8, 12-13 and 14-16 under 35 U.S.C. § 102(b) as being anticipated by Fukunaga and has rejected claims 9-11 and 17-19 under 35 U.S.C. § 103(a) as being unpatentable over Fukunaga. Applicant respectfully traverses the Examiner's §§ 102 and 103 rejections of the claims.

Applicant's invention relates to a method of transmitting encoded video frame data to a receiver. In conventional systems which compress video data into data streams comprising intra (I) frames and inter (P) frames, if the receiver does not correctly receive, or fails to receive a P frame in the sequence, the errors caused by that faulty reception will persist in all subsequent P frames until a new I frame is successfully received. The present application discloses and claims a solution to this problem in which to reduce the possibility of errors and error propagation, a first sequence of video frames is encoded and a second sequence of video frames corresponding to the first sequence is also encoded. In this second sequence, all video frames are predicted from a single reference frame. Data from the first sequence is transmitted to a receiver and on receiving from the receiver an indication that one or more of the transmitted frames is corrupted, data from the second sequence and corresponding to the one or more corrupted frames is transmitted to the receiver. Thus, in accordance with Applicant's invention all frames can be successfully decoded at the receiver.

Fukunaga discloses a media stream transmitter in which the encoder can choose to encode P frames with difference data over the previous frame in the sequence or with

difference data over the previous I frame. The encoding process, therefore, significantly differs from Applicant's invention since only a single encoded data stream is created by Fukunaga. In the cited reference at Figure 11 and columns 13 and 14, the top line illustrates the predictive encoding of a sequence of frames that are to be transmitted (e.g., frames b, c, d and e) based on the immediately preceding frame. The bottom line illustrates the result of decoding the transmitted frames, including failure to decode frame d due to loss during transmission. Accordingly, the decoder sends a negative acknowledgement (NACK) which, when received by the encoder, causes the predictive encoding to change (for frame f) so that it is based on an earlier correctly received frame. No data corresponding to lost frame d is transmitted and as a result frame d, and therefore frame e, is never decoded. Thus, Fukunaga fails to teach or suggest the feature of the present claims in which a second sequence of video frames corresponding to the first sequence of video frames is encoded, the second sequence of video frames being predicted from a single reference frame, and wherein if the receiver sends an indication that one or more frames are corrupted, the transmitter transmits data (frames) corresponding to the corrupted frames from the second sequence of frames. See independent claims 1 and 12.

The Examiner has relied upon the passage of Fukunaga at column 3, lines 8-11 for disclosing "all video frames in said second sequence predicted from a single reference frame." See Office Action at page 7. However, this passage is merely a statement regarding a separate document, JP 95571/1995. This statement is not an incorporation by reference. The complete passage states:

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Japanese Patent Kokai Publication No. 95571/1995
discloses an alternative scheme, illustrated in FIG. 25, in
which P-frames b to h are all coded with reference to the
preceding frame (a). Under this scheme, the loss of a P-
frame does not affect the decoding of other P-frames. A
disadvantage of this scheme is that the data compression
ratio tends to decline with each succeeding P-frame, due to
increasing temporal distance between the P-frame and the I-
frame to which the P-frame is referenced.

Fukunaga at col. 3, lines 8-17 (emphasis supplied). On a proper reading of EP

0763944, the skilled person would recognize that the statement regarding JP

95571/1995 is not part of the Fukunaga system. Indeed, it is merely a statement in the

"Background Of The Invention" section of Fukunaga describing a known technique to

address error propagation *and pointing out a disadvantage of that scheme.* Thus,

Fukunaga actually teaches away from using the JP 95571/1995 scheme.

As mentioned above, the detailed description of Fukunaga only describes a

transmitter which chooses how to encode P frames to generate a single encoded

stream. It does not teach the feature of "encoding a second sequence of video frames

corresponding to said first sequence of video frames, all video frames in said second

sequence predicted from a single reference frame" as required by the present claims.

Moreover, there is nothing in Fukunaga at column 13, line 57 to column 14, line

13 that teaches or suggests "on receiving from the receiver an indication that one or

more frames in said first sequence is corrupted, transmitting data corresponding to said

one or more frames to the receiver from said second sequence of frames" as required

by the present claims. Fukunaga discloses a system that generates a single encoded

data stream and when the receiver indicates that one or more frames are corrupted

frames, the encoder switches the way in which it encodes the next frame.
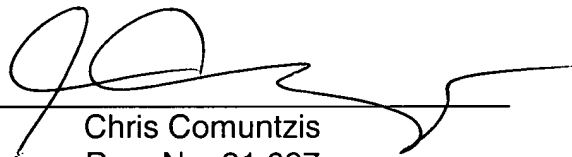
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Accordingly, for all of the above reasons, the present claims are believed to patentably define over Fukunaga which fails to teach or suggest all of the features of the present claims.

Therefore, in view or the above amendments and remarks, it is respectfully requested that the application be reconsidered and that all of claims 1-9 and 12-17, now standing in the application, be allowed and that the case be passed to issue. If there are any other issues remaining which the Examiner believes could be resolved through either a supplemental response or an Examiner's amendment, the Examiner is respectfully requested to contact the undersigned at the local telephone exchange indicated below.

Respectfully submitted,

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